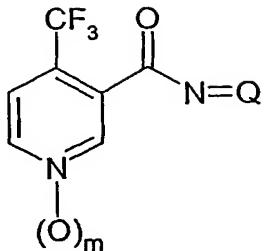


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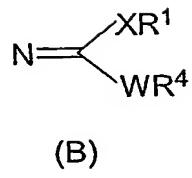
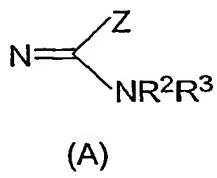
CLAIMS

1. A compound of the formula (I):

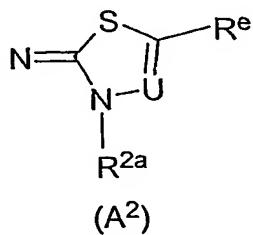


5 wherein:

N=Q is a formula (A) or (B):

Z is YR¹ or NR⁵R⁶;or when Z is YR¹, R¹ and R³ may form together with the adjacent -Y-C-NR²- atoms,

- 10 a five or six membered saturated heterocyclic ring which optionally contains an additional N or O atom, and is unsubstituted or substituted by one or more R⁷ groups or one of the ring carbon atoms may form a carbonyl or imino group, and which ring is optionally fused to a benzene ring optionally substituted by R⁷;
- or when Z is YR¹, R¹ and R³ may form together with the adjacent -Y-C-NR²- atoms, a
- 15 group (A²):



Y, X and W are each independently O or S;

or R¹ and R⁴ may form together with the adjacent -X-C-W- group, a five or six membered unsaturated, partially saturated or saturated heterocyclic ring,

- 20 unsubstituted or substituted by one or more R⁷ groups or one of the ring carbon atoms may form a carbonyl group;

- R¹ is (C₁-C₈)alkyl, (C₃-C₆)alkenyl, (C₃-C₆)alkynyl or (C₃-C₈)cycloalkyl, which last four mentioned groups are unsubstituted or substituted by one or more R⁸ groups; or is (C₃-C₈)cycloalkyl-(C₁-C₆)alkyl which cycloalkyl is unsubstituted or substituted by one or more R⁸ groups; or is -(CR⁹R¹⁰)_pR¹¹ or -(CR⁹R¹⁰)_pheterocyclyl; or when Y is O is
- 5 (C₁-C₆)alkylamino, NH(C₃-C₈)cycloalkyl or NH(CH₂)_sR¹¹;
- R^{2a} is (C₁-C₈)alkyl, (C₃-C₆)alkenyl, (C₃-C₆)alkynyl, (C₃-C₈)cycloalkyl, (C₁-C₆)alkoxy, (C₃-C₆)alkenyloxy, (C₃-C₆)alkynyloxy, (C₁-C₆)alkylamino, di-(C₁-C₆)alkylamino, NHCO(C₁-C₆)alkyl, NHSO₂(C₁-C₆)alkyl, CO(C₁-C₆)alkyl or SO₂(C₁-C₆)alkyl which last thirteen mentioned groups are unsubstituted or substituted by one or more R⁸
- 10 groups; or is (C₃-C₈)cycloalkyl-(C₁-C₆)alkyl which cycloalkyl is unsubstituted or substituted by one or more R⁸ groups; or is -(CR⁹R¹⁰)_pR¹¹, -(CR⁹R¹⁰)_pheterocyclyl, OH, SO₂R¹¹, NH₂, NHCOR¹¹, NHR¹¹, NH(C₃-C₈)cycloalkyl, NH(CH₂)_sR¹¹, O(CHR¹⁰)_rR¹¹; O(CH₂)_rheterocyclyl or N=C[(C₁-C₆)alkyl]₂; or is (C₃-C₆)alkenyl substituted by R¹¹;
- 15 R² and R⁵ are each independently R^{2a} or H;
- R³ and R⁶ are each independently H or R¹;
- R⁴ is (C₁-C₆)alkyl substituted by R⁸; or is (C₃-C₆)alkenyl, (C₃-C₆)alkynyl or (C₃-C₈)cycloalkyl which last three mentioned groups are unsubstituted or substituted by one or more R⁸ groups; or is (C₃-C₈)cycloalkyl-(C₁-C₆)alkyl unsubstituted or
- 20 substituted by one or more R⁸ groups; or is -(CR⁹R¹⁰)_pR¹¹ or -(CR⁹R¹⁰)_pheterocyclyl; or when W is O, R⁴ is (C₁-C₆)alkylamino;
- or R² and R³ together with the adjacent N atom form a 3 to 8-membered unsaturated, partially saturated or saturated heterocyclic ring which optionally contains up to three additional N, O or S atoms and which ring is unsubstituted or
- 25 substituted by one or more R⁷ groups;
- R⁷ is R⁸, R⁴, (C₁-C₆)alkyl or CH₂OH;
- R⁸ is halogen, (C₁-C₆)alkoxy, (C₁-C₆)haloalkoxy, S(O)_nR¹², CN, CO₂(C₁-C₆)alkyl, CO₂H, NO₂, OH, amino, (C₁-C₆)alkylamino, di-(C₁-C₆)alkylamino, carbamoyl, (C₁-C₆)-alkylcarbamoyl, di-(C₁-C₆)-alkylcarbamoyl, CH[O(C₁-C₆)alkyl]₂, (C₃-C₆)alkenyloxy, (C₃-C₆)alkynyloxy or O(CH₂)_rR¹¹;
- 30 R⁹ and R¹⁰ are each independently H, (C₁-C₆)alkyl or (C₁-C₆)haloalkyl;

- R¹¹ is aryl unsubstituted or substituted by one or more groups selected from (C₁-C₆)alkyl, (C₁-C₆)haloalkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, (C₃-C₈)cycloalkyl, -(CH₂)_uR¹³, heterocyclyl, halogen, (C₁-C₆)alkoxy, (C₁-C₆)haloalkoxy, S(O)_nR¹², CN, CO₂(C₁-C₆)alkyl, NO₂, amino, (C₁-C₆)alkylamino and di-(C₁-C₆)alkylamino;
- 5 R¹² is (C₁-C₆)alkyl or (C₁-C₆)haloalkyl;
R¹³ is phenyl unsubstituted or substituted by one or more groups selected from halogen, (C₁-C₆)alkyl and (C₁-C₆)haloalkyl;
- R^e is H, (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, (C₃-C₈)cycloalkyl, (C₃-C₈)cycloalkyl-(C₁-C₆)alkyl, halogen, (C₁-C₆)alkoxy, (C₁-C₆)haloalkoxy, S(O)_nR¹², (C₃-C₆)alkenyloxy, (C₃-C₆)alkynyloxy, -(CH₂)_pR¹¹, heterocyclyl, CN, CO₂(C₁-C₆)alkyl,
10 NO₂, amino, (C₁-C₆)alkylamino, di-(C₁-C₆)alkylamino or O(CH₂)_rR¹¹ wherein r is 0 or 1;
- U is N or CH,
m, s and u are each independently 0 or 1;
- 15 n is 0, 1 or 2;
p is 0, 1, 2 or 3;
r is 0 or an integer from 1 to 6; and each heterocyclyl in the above mentioned radicals is independently a mono or bicyclic heterocyclic radical having 3 to 7 ring atoms in each ring and 1 to 4 hetero atoms selected from N, O and S;
- 20 with the proviso that in (A) when Z is NR⁵R⁶ then up to three of R², R³, R⁵ and R⁶ are not simultaneously H;
or a pesticidally acceptable salt thereof.
2. A compound or a salt thereof as claimed in claim 1, wherein Z is YR¹;
25 or when Z is YR¹, R¹ and R³ may form together with the adjacent -Y-C-NR²- atoms, a five or six membered saturated heterocyclic ring which optionally contains an additional N or O atom, and is unsubstituted or substituted by one or more R⁷ groups or one of the ring carbon atoms may form a carbonyl or imino group, and which ring is optionally fused to a benzene ring optionally substituted by R⁷;
- 30 one of X and W is O and the other is S;
or R¹ and R⁴ may form together with the adjacent -X-C-W- group, a five or six membered unsaturated, partially saturated or saturated heterocyclic ring,

unsubstituted or substituted by one or more R⁷ groups or one of the ring carbon atoms may form a carbonyl group.

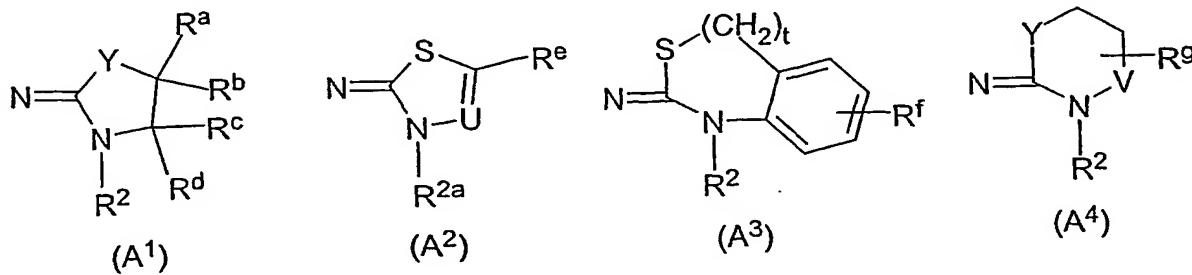
3. A compound or a salt thereof as claimed in claim 1 or 2, wherein R¹ is (C₁-C₈)alkyl or (C₃-C₆)alkenyl, which groups are unsubstituted or substituted by one or more groups selected from (C₁-C₄)alkoxy, S(O)_nR¹² and OH; or is -(CR⁹R¹⁰)_pR¹¹.

4. A compound or a salt thereof as claimed in any one of claims 1 to 3, wherein R² is H, (C₃-C₆)alkenyl, (C₃-C₆)alkynyl, (C₁-C₆)alkoxy, (C₃-C₆)alkenyloxy, (C₃-C₆)alkynyloxy, -(CR⁹R¹⁰)_pR¹¹, -(CR⁹R¹⁰)_pheterocyclyl, NHR¹¹ or O(CH₂)_nR¹¹; or is (C₁-C₈)alkyl unsubstituted or substituted by a di-(C₁-C₄)alkylamino group.

5. A compound or a salt thereof as claimed in any one of claims 1 to 4, wherein R³ is (C₁-C₈)alkyl or (C₃-C₆)alkenyl, which groups are unsubstituted or substituted by an (C₁-C₄)alkoxy or OH group; or is H or -(CR⁹R¹⁰)_pR¹¹.

6. A compound or a salt thereof as claimed in any one of claims 1 to 5, wherein R⁴ is (C₁-C₈)alkyl substituted by (C₁-C₄)alkoxy or OH; or is (C₃-C₆)alkenyl, (C₃-C₆)alkynyl or (C₃-C₈)cycloalkyl which last three mentioned groups are unsubstituted or substituted by an (C₁-C₄)alkoxy or OH group; or is (C₃-C₈)cycloalkyl-(C₁-C₆)alkyl which cycloalkyl is unsubstituted or substituted by an (C₁-C₄)alkoxy or OH group; or is -(CR⁹R¹⁰)_pR¹¹ or -(CR⁹R¹⁰)_pheterocyclyl.

7. A compound or a salt thereof as claimed in claim 1, wherein N=Q is a formula (A) in which Z is YR¹ and R¹ and R³ form together with the adjacent -Y-C-NR²- atoms, a heterocyclic ring which is of formula (A¹), (A²), (A³) or (A⁴):



wherein:

Y is O or S;

U is N or CH;

V is O or CH₂;

5 t is 0 or 1;

R^a, R^b, R^c and R^d are each independently selected from H, (C₁-C₆)alkyl, (C₁-C₆)haloalkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, (C₃-C₈)cycloalkyl, halogen, (C₁-C₆)alkoxy, (C₁-C₆)haloalkoxy, S(O)_nR¹², (C₂-C₆)alkenyloxy, (C₂-C₆)alkynyloxy, R¹¹, heterocyclyl and O(CH₂)_rR¹¹ wherein r is 0 or 1;

10 or R^a and R^b, or R^c and R^d may form a carbonyl or imino group;

R^e and R^f are each independently selected from H, (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, (C₃-C₈)cycloalkyl, (C₃-C₈)cycloalkyl-(C₁-C₆)alkyl, halogen, (C₁-C₆)alkoxy, (C₁-C₆)haloalkoxy, S(O)_nR¹², (C₂-C₆)alkenyloxy, (C₂-C₆)alkynyloxy, -(CH₂)_pR¹¹, heterocyclyl, CN, CO₂(C₁-C₆)alkyl, NO₂, amino, (C₁-C₆)alkylamino, di-(C₁-C₆)alkylamino and O(CH₂)_rR¹¹ wherein r is 0 or 1;

15 R^g is H, (C₁-C₆)alkyl, halogen, (C₁-C₆)alkoxy, CO₂(C₁-C₆)alkyl or R¹¹;

R^{2a} is (C₁-C₆)alkyl unsubstituted or substituted by one or more groups selected from halogen, (C₁-C₆)alkoxy, CH[O(C₁-C₆)alkyl]₂, CN, CO₂(C₁-C₆)alkyl and CO₂H; or is (C₃-C₆)alkenyl unsubstituted or substituted by one or more halogen or phenyl

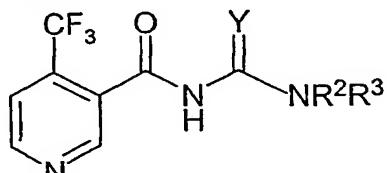
20 groups; or is (C₃-C₆)alkynyl, (C₃-C₈)cycloalkyl, (C₃-C₈)cycloalkyl-(C₁-C₆)alkyl, (C₁-C₆)alkoxy, (C₃-C₆)alkenyloxy or (C₃-C₆)alkynyloxy; or is -(CHR¹⁰)_pR¹¹ wherein R¹⁰ is H or (C₁-C₆)alkyl, p is 0 or 1 and R¹¹ is phenyl unsubstituted or substituted by one or more groups selected from halogen, (C₁-C₆)haloalkyl, (C₁-C₆)alkoxy, (C₁-C₆)haloalkoxy and phenoxy unsubstituted or substituted by one or more groups

25 selected from halogen and (C₁-C₆)haloalkyl; or is O(CHR¹⁰)_rR¹¹ wherein R¹⁰ is H or (C₁-C₆)alkyl, r is 1 and R¹¹ is phenyl unsubstituted or substituted by one or more groups selected from (C₁-C₆)haloalkyl, (C₁-C₆)alkoxy and NO₂; and

R² is R^{2a} or H.

30 8. A process for the preparation of a compound of formula (I) or a salt thereof as defined in any one of claims 1 to 7, which process comprises:

- a) where N=Q is a formula (A) in which Z is YR¹, m is zero, and R¹, R² and R³ are as defined in claim 1, the reaction of a compound of formula (II):



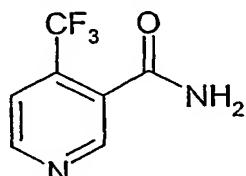
(II)

- 5 wherein Y, R² and R³ are as defined in formula (I), with a compound of formula (III):



wherein R¹ is as defined in formula (I) and L is a leaving group in the presence of a base; or

- b) where N=Q is a formula (A) in which Z is YR¹, m is zero, R³ is H, and R¹ and 10 R² are as defined in formula (I), the 1-pot reaction of a compound of formula (IV):



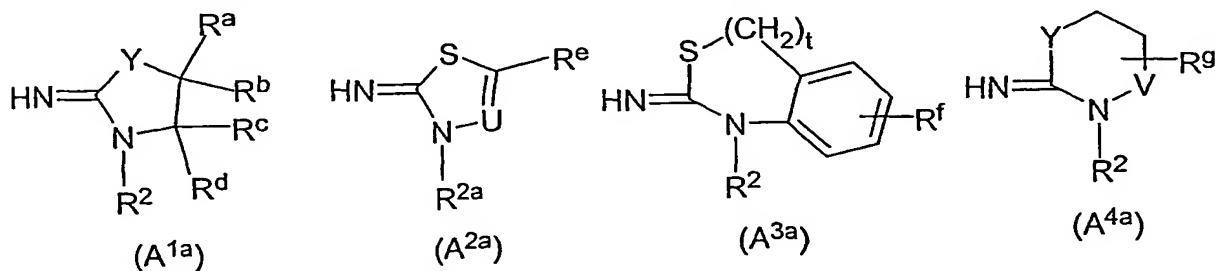
(IV)

with a strong base, and an isothiocyanate or isocyanate compound of formula (V):

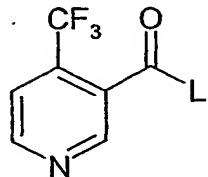


- 15 wherein R² is as defined in formula (I) to give the corresponding acylthiourea or acylurea intermediate of formula (II) above wherein R³ is H, which is reacted with a compound of formula (III) as described in above process claim a); or

- c) where N=Q is a formula (A) which is a heterocyclic ring of formula (A¹), (A²), 20 (A³) or (A⁴), wherein the various symbols are as defined in claim 7, the acylation of the corresponding compound of formula (A^{1a}), (A^{2a}), (A^{3a}) or (A^{4a}):



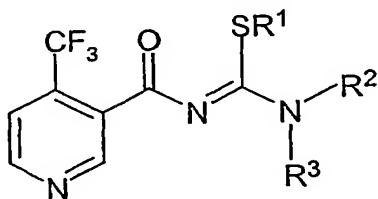
wherein the various symbols are as defined in claim 7, with a compound of formula (VI):



(VI)

5 wherein L is a leaving group; or

d) where N=Q is a formula (A) in which Z is NR⁵R⁶, m is zero, and R², R³, R⁵ and R⁶ are as defined in formula (I), the reaction of a compound of formula (VII):



(VII)

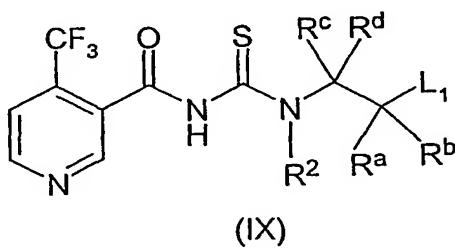
10 wherein R¹, R² and R³ are as defined in formula (I), with a compound of formula (VIII):



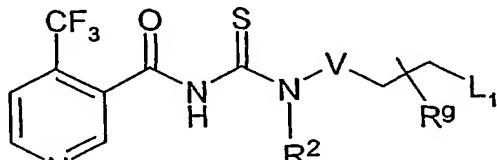
wherein R⁵ and R⁶ are as defined in formula (I), in the presence of a base; or

e) where N=Q is a formula (A) which is a heterocyclic ring of formula (A¹) or (A⁴),

15 m is zero, Y is S and the other symbols are as defined in claim 7, the cyclisation reaction of a compound of formula (IX) or (X) respectively:



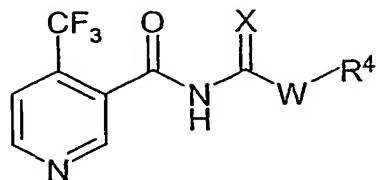
(IX)



(X)

wherein the various symbols are as defined in formula (I) and L₁ is a leaving group, in the presence of a base; or

20 f) where m is zero and N=Q is a formula (B) in which R¹ and R⁴ are as defined in formula (I), the reaction of a compound of formula (XI):



(XI)

- wherein X, W and R^4 are as defined in formula (I), with a compound of formula (III) as defined in the above process a), in the presence of a base; or
- 5 g) where Q is as defined above, and m is 1 the oxidation of a corresponding compound in which m is 0; and if desired, converting a resulting compound of formula (I) into a pesticidally acceptable salt thereof.
- 10 9. A pesticidal composition comprising a compound of formula (I) or a pesticidally acceptable salt thereof as defined in any one of claims 1 to 7, in association with a pesticidally acceptable diluent or carrier and/or surface active agent.
- 15 10. The use of compounds of the formula (I) or their salts as claimed in any of claims 1 to 7 as pesticides.